

WHAT IS CLAIMED IS:

1. A process modeling tool for graphically representing a process which includes transactions and events, comprising:

a computer system including a display device, a data storage device, and a user interface device;

a graphical tool which a user operates through the user interface device to create a graphical representation of the transactions and events with graphical symbols shown on the display device, where one or more of such transactions and events may be of an asynchronous nature.

2. A process modeling tool for generating computer code, where the code is based upon a graphical representation of a process, comprising:

a computer system including a display device, a data storage device, and a user interface device;

a traversal tool which traverses the graphical representation;

a code generator which generates computer code in response to information contained in the graphical representation and information received from the traversal tool, where the computer code is stored on the data storage device and is executable on

the computer system to cause the computer system to perform one or more operations which emulate the process shown in the graphical representation.

3. A process modeling tool for graphically representing a process which includes transactions and events, and for generating computer code representing the process, comprising:

a computer system including a display device, a data storage device, and a user interface device;

a graphical tool which creates a graphical representation of the transactions and events with graphical symbols, where one or more of such transactions and events may be of an asynchronous nature;

a traversal tool which traverses the graphical representation;

a code generator which generates computer code in response to information contained in the graphical representation and information received from the traversal tool, where the computer code is executable on the computer system to cause the computer system to perform one or more operations which emulate the process shown in the graphical representation.

4. A method for modeling a process including an ordered sequence of actions each characterized by one or more triggering events and exit events, the method comprising:

graphically representing the sequence of actions and associated trigger and exit events for the process with graphical elements such that the graphical elements are organized to express the process, where

functions within the process are represented as action nodes having associated therewith entry and exit criteria and an executable function;

entry and exit criteria for functions within the process are represented as event links having associated therewith a conditional expression that must be satisfied if entry or exit from an action node is to commence;

generation of two or more parallel events within the process is represented by split nodes with two or more asynchronous exit conditions;

synchronization of two or more asynchronous events within the process is represented by join nodes with two or more asynchronous entry conditions; and

repetitive functions are represented within the process as repetition nodes characterized by entry and exit criteria and an executable function that includes a repeatable function and

repetition factor for controlling a number of repetitions for the repeatable function.

5. A method for modeling a process comprising:
traversing a graphical representation of the process;
generating computer code to represent functions and
execution flow within the process, where the computer code is
executable on a computer system.

6. A method for modeling a process comprising:
creating a graphical representation of the process where
functions within the process are represented as action
nodes;
events within the process are represented as event
links;
generation of two or more parallel events within the
process is represented by split nodes;
synchronization of two or more asynchronous events
within the process is represented by join nodes;
repetitive functions within the process are represented
as repetition nodes;
traversing the graphical representation of the process;

generating computer code to represent functions and execution flow within the process, where the computer code is executable on a computer system.

7. A method for modeling a process comprising:
creating a graphical representation of the process as an extended activity diagram where
functions within the process are represented as action nodes;
events within the process are represented as event links;
independent events are represented as independent event nodes;
exceptions are represented as exception nodes;
generation of two or more parallel events within the process is represented by split nodes;
synchronization of two or more asynchronous events within the process is represented by join nodes;
repetitive functions within the process are represented as repetition nodes;
traversing the graphical representation of the process;
generating computer code to represent functions and execution flow within the process, where the computer code is executable on a computer system.